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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,023	01/02/2002	KS Venkatraman	42390P13420	5363

8791 7590 01/14/2005

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EXAMINER
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KIM, KENNETH S

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/037,023

**Applicant(s)**

VENKATRAMAN ET AL.

**Examiner**

Kenneth S KIM

**Art Unit**

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

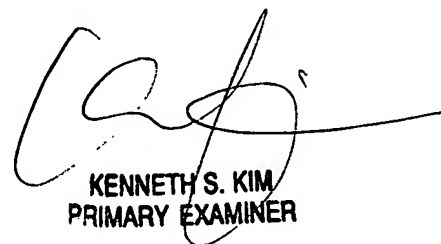
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 13-26, 37-50, and 55-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 27-36 and 51-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
KENNETH S. KIM  
PRIMARY EXAMINER

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01/02/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

1. Claims 1-12, 27-36, and 51-54 have been elected for examination and claims 13-26, 37-50, and 55-59 remain non-elected.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12, 31-36, and 51-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 1, it is not clear what is performed by "discarding".

(b) Claim 5, it is not clear what is performed by "whacking".

(c) Claim 8, the same as (a).

(d) Claim 31, the same as (b).

(e) Claim 51, the same as (a).

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-12, 27-36, and 51-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Sager, U.S. Patent No. 5,966,544.

Sager teaches the invention as claimed in claim 1 including a method comprising:

(a) determining a criticality of a next-in-line .mu.OP (instruction) of a first input stream (col. 10, line 28) and if the next-in-line .mu.OP of the first input stream is not critical,  
(b) discarding the next-in-line .mu.OP of the first input stream (col. 11, line 27),  
(c) placing a next-in-line .mu.OP of a second input stream into an output stream (col. 10, lines 13 and 27), and

further teaches as in claims 2-4,

(d) if the next-in-line .mu.OP of the first input stream is critical, placing the next-in-line .mu.OP of the first input stream into the output stream and holding the next-in-line .mu.OP of the second input stream (the first source has a higher priority than the second source) – claim 2,  
(e). wherein holding the next-in-line .mu.OP of the second input stream comprises holding the next-in-line .mu.OP of the second input stream until a next clock cycle (higher priority source is selected for the current cycle) –claim 3, and  
(f) the discarded next-in-line .mu.OP of the first input stream into a replay loop (col. 11, line 27) – claim 4.

The method claims 5-7, the method claims 8-12, the device claims 28-30 (fig. 7), the device claims 31-36 (with page miss handler, col. 9, line 40 and col. 11, line 39),

Art Unit: 2111

and the program product claims 51-54 are equivalently rejected based on the same reason.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nemirovsky et al taught a method of scheduling instruction streams based on priority.

Sato taught a method of scheduling replayed instructions.

Upton et al taught a method of replaying instruction using slow and fast path.

Merchant et al (6,385,715) taught a method of replaying multiple threads.

Merchant et al (6,785,803) taught a method of braking livelocks using replay queue.

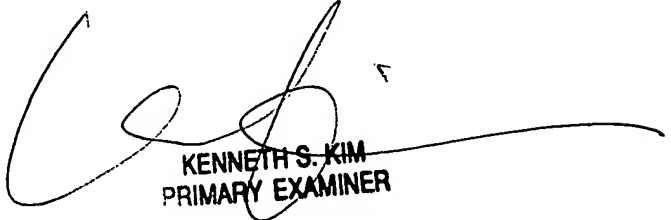
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth S KIM whose telephone number is (571) 272-3627. The examiner can normally be reached on M-F (8:30-17:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (571) 272-3632. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100

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January 4, 2005

  
KENNETH S. KIM  
PRIMARY EXAMINER